

The Examiner rejects claims 1, 2 and 6-8 under 35 U.S.C. §103(a) as being unpatentable over Key et al. in view of Ohtomo et al. '311. The Examiner states Key et al. disclose each element of claim 1, but do not explicitly disclose a measuring system configured to determine whether the object to be measured is a prism or a natural object based on the result of the comparison. The Examiner states that the use of displays are conventional tools available and would be obvious to incorporate for the purpose of viewing results, etc. The Examiner cites Ohtomo et al. for its teaching of the operability of an object detection scheme wherein a particular object is distinguished over another based on the receipt of a characteristic reflected light signal. The Examiner concludes that it would have been obvious to modify the Key et al. system to configure it to determine whether the object to be measured is a prism or a natural object in view of Ohtomo et al.

By the accompanying amendment, the claims have been amended to more clearly specify the components of the present invention. The distance measuring system of the present invention as now claimed considers the difference between the photodetection amount of reflection light beam from a prism and the photodetection amount of a reflection light beam from a natural object. Based on the difference between these photodetection amounts, the system determines whether an object to be measured is the prism or the natural objection. More specifically, a storage unit prestores data regarding the amount of the reflection light beam from the prism according to a distance and the amount of the reflection light beam from the natural object according to the distance. By comparing the data prestored in the storage unit with data concerning a reflection light beam that is received by the photodetection unit, the present system determines whether the object to be measured that reflects the reflection light beam is the prism or the natural object.

Support for the amendment can be found at page 8, lines 1-5, page 11-13 and page 15, for example.

The Examiner admits that Key et al. do not disclose a measuring system configured to determine whether the object to be measured is a prism or a natural object based on the comparison of the data, and cites Ohtomo et al. as supplying this deficiency.

However, Ohtomo et al. disclose a combination of a retroreflection member and a birefringement member. By using polarization, Ohtomo et al. judges a reflection beam from an object to be measured. Ohtomo et al. do not describe components for judging the object to be measured by comparing an amount of the reflection light beam for the object to be measured. Moreover, Ohtomo et al. do not describe a storage unit that stores the amount of the reflection light beam from the object to be measured according to the distance as recited in claim 1 as amended.

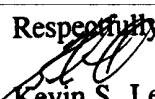
The Examiner also rejects claim 4 under 35 U.S.C. §103(a) as being unpatentable over Key et al. in view of Ohtomo et al. and further in view of Schreuder. The Examiner takes the position that it would have been obvious to modify the device of Key et al. (as modified by Ohtomo et al. to differentiate between objects) by including the Schreuder reference database containing changes in photodetection values due to environmental conditions.

Claim 4 is believed to be allowable by virtue of its dependence, for the reasons provided above.

The amendment is only now being made in order to more clearly define the invention.

Reconsideration, entry of the amendment, and allowance are respectfully requested in view of the foregoing amendment and remarks.

Respectfully submitted,

  
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Version With Markings to Show Changes Made

1. (Twice amended) A distance measuring system for measuring distance by receiving a reflection light beam from an object to be measured, comprising a control arithmetic unit, a storage unit, a light emitting unit for emitting a measuring light beam, and a photodetection unit for receiving said reflection light beam from said object to be measured and for issuing a signal based on a photodetection amount of said reflection light beam, a mode changing switch, and a display unit for displaying the result of a calculation of said arithmetic unit, wherein said mode changing switch selects whether said object to be measured is a prism or a natural object, said storage unit prestores a photodetection amount of a reflection light beam from the prism according to the distance and a photodetection amount of a reflection light beam from the natural object according to the distance, [there is provided prestored data that is obtained by associating the measured distance and the photodetection amount of said reflection light beam according to said object to be measured, and wherein] said control arithmetic unit compares between the photodetection amount of said reflection light beam that is received by said photodetection unit and said photodetection amount of said reflection light beam from said prism or said natural object that is prestored in said storage unit [from said object to be measured, a result of distance measurement based on said reflection light beam and said prestored reference data,] and judges whether said object to be measured is the selected object to be measured, and said display unit displays the result of said judgment by said control arithmetic unit [a prism or a natural object based on the result of the comparison, and wherein the result of said judgement is displayed on said display unit].

2. (Twice amended) A distance measuring system according to claim 1, wherein said photodetection unit comprises [further comprising] a density filter for adjusting said photodetection amount of said reflection light beam from said object to be measured, said storage unit prestores

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[wherein] an adjusting position of said density filter according to the distance to the prism and to the natural object, [is associated with said measured distance,] and said object to be measured is judged based on the adjusting position of said density filter [reference data obtained by the association is stored for judging said object to be measured as said reference data].

6. (Twice amended) A distance measuring system according to claim 1, wherein there are provided at least a prism measurement mode and a non-prism measurement mode, and when said prism mode is selected, said distance is displayed on said display unit only when said object to be measured is judged as a prism [corner cube], and the fact that said object to be measured is not a prism [corner cube] is displayed on said display unit when said object to be measured is not judged as a prism [corner cube].

7. (Twice amended) A distance measuring system according to claim 1, wherein photodetection sensitivity can be automatically changed over according to said photodetection amount of said reflection light beam from said object to be measured, it is judged whether said object to be measured is the selected object to be measured [judged] according to said photodetection amount, and the result of the judgment [on said object to be measured] is displayed on said display unit.

8. (Cancelled)